

WHAT IS CLAIMED IS:

1. An in-plane switching mode liquid crystal display device, comprising:

a substrate;

5 a plurality of gate and data bus lines arranged on the substrate defining a pixel region;

transistors arranged at corresponding cross points of the plurality of gate and data bus lines;

10 at least one data electrode connected to each one of the plurality of data bus lines, wherein a portion of the at least one data electrode overlaps with an adjacent gate bus line;

a passivation layer formed above the transistors and the at least one data electrode;

15 at least one common electrode formed above the passivation layer, wherein a portion of the at least one common electrode overlaps with the adjacent gate bus line and the at least one data electrode; and

a common line coupled with the at least one common electrode.

20 2. The in-plane switching mode liquid crystal display device of claim 1, wherein the adjacent gate bus line and the at least one data electrode form a first storage capacitor.

25 3. The in-plane switching mode liquid crystal display device of claim 1, wherein the at least one data electrode and the at least one common electrode form a second storage capacitor.

4. The in-plane switching mode liquid crystal display device of claim 1, further comprising:
a second substrate formed above the substrate;
a first alignment layer formed above the passivation layer;
5 and
a second alignment layer formed on the second substrate.

10 5. The in-plane switching mode liquid crystal display device of claim 4, wherein the first alignment layer and the second alignment layer comprise one of polyamide, polyimide, SiO_2 , polyvinylalcohol, polyamic acid and a photosensitive material.

6. The in-plane switching mode liquid crystal display device of claim 5, wherein the photosensitive material comprises one of polyvinylcinnamate, polysiloxanecinnamate and cellulosecinnamate.

7. The in-plane switching mode liquid crystal display device of claim 1, further comprising a second substrate arranged above the first substrate; and a liquid crystal layer formed between the first and second substrates.

8. An in-plane switching mode liquid crystal display device, comprising:

5 a first substrate;
a plurality of gate and data bus lines arranged on the substrate defining a pixel region;
transistors arranged at corresponding cross points of the plurality of gate and data bus lines;

at least one data electrode connected to each one of the plurality of data bus lines, wherein the at least one data electrode has no overlapping portions with an adjacent gate bus line;

5 a passivation layer formed above the transistors and the at least one data electrode;

10 at least one common electrode formed above the passivation layer, wherein the at least one common electrode has no overlapping portions with the adjacent gate bus line and a portion of the at least one common electrode overlaps the at least one data electrode; and

a common line coupled with the at least one common electrode.

9. The in-plane switching mode liquid crystal display device of claim 8, wherein the adjacent gate bus line and the at least one data electrode form a first storage capacitor.

10. The in-plane switching mode liquid crystal display device of claim 8, wherein the at least one data electrode and the at least one common electrode form a second storage capacitor.

11. The in-plane switching mode liquid crystal display device of claim 8, further comprising:

a second substrate formed above the substrate;

and

a first alignment layer formed above the passivation layer;

a second alignment layer formed on the second substrate.

12. The in-plane switching mode liquid crystal display device of claim 11, wherein the first alignment layer and the second alignment layer comprise one of polyamide, polyimide, SiO_2 , polyvinylalcohol, polyamic acid and a photosensitive material.

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13. The in-plane switching mode liquid crystal display device of claim 12, wherein the photosensitive material comprises one of polyvinylcinnamate, polysiloxanecinnamate and cellulosecinnamate.

14. The in-plane switching mode liquid crystal display device of claim 8, further comprising a second substrate arranged above the first substrate; and a liquid crystal layer formed between the first and second substrates.

15. a liquid crystal display device, comprising:
a substrate;
first and second gate lines arranged substantially in parallel above the substrate;
a bus line arranged to intersect the first and second gate lines to define a pixel;
a transistor having a source and a drain formed near an intersection part of the bus line and the first gate line, the source being connected to the bus line;
at least one data electrode connected to the drain of the transistor;
a passivation layer formed above the transistors and the at least one data electrode;
at least one common electrode arranged above the passivation

layer in parallel with the second gate line, the at least one common electrode and the at least one data electrode engaged in an in-plane switching mode, wherein portions of at least two of the second gate line, the data electrode and the common electrode are overlapping with each other.

~~16.~~ 16. The liquid crystal display device of claim 15, wherein the portions of the second gate line, the data electrode and the common electrode all overlap with each other.

17. The liquid crystal display device of claim 15, wherein the second gate line has no overlapping portions with the data electrode and the common electrode.

18. The liquid crystal display device of claim 15, wherein the data electrode has no overlapping portions with the common electrode.

19. The liquid crystal display device of claim 15, wherein the second gate line has no overlapping portions with the common electrode.

20. The liquid crystal display device of claim 16, wherein the second gate bus line and the data electrode form a first storage capacitor.

21. The liquid crystal display device of claim 16, wherein the data electrode and the common electrode form a second storage capacitor.

22. The liquid crystal display device of claim 17, wherein the second gate bus line and the data electrode form a first storage capacitor.

23. The liquid crystal display device of claim 17, wherein the data electrode and the common electrode form a second storage capacitor.

24. The liquid crystal display device of claim 18, wherein the second gate bus line and the data electrode form a first storage capacitor.

25. The liquid crystal display device of claim 18, wherein the data electrode and the common electrode form a second storage capacitor.

26. The liquid crystal display device of claim 19, wherein the second gate bus line and the data electrode form a first storage capacitor.

27. The liquid crystal display device of claim 19, wherein the data electrode and the common electrode form a second storage capacitor.

28. The liquid crystal display device of claim 15, wherein a second substrate formed above the substrate; a first alignment layer formed above the passivation layer; and a second alignment layer formed on the second substrate.

29. The liquid crystal display device of claim 28, wherein the first alignment layer and the second alignment layer comprise one of polyamide, polyimide, SiO_2 , polyvinylalcohol, polyamic acid and a photosensitive material.

29. The liquid crystal display device of claim 29, wherein the photosensitive material comprises one of polyvinylcinnamate, polysiloxanecinnamate and cellulosecinnamate.

30. a method of manufacturing a liquid crystal display device, comprising the steps of:

providing a substrate;

forming first and second gate lines arranged substantially in parallel above the substrate;

forming a bus line to intersect the first and second gate lines to define a pixel;

fabricating a transistor having a source and a drain near an intersection part of the bus line and the first gate line, the source being connected to the bus line;

forming at least one data electrode to the drain of the transistor;

arranging a passivation layer above the transistors and the at least one data electrode;

forming at least one common electrode above the passivation layer in parallel with the second gate line, the at least one common electrode and the at least one data electrode, wherein portions of at least two of the second gate line, the data electrode and the common electrode are overlapping with each other.

31. The method of manufacturing a liquid crystal display device of claim 30, wherein the portions of the second gate line, the data electrode and the common electrode all overlap with each other.